Intel® Pentium® 4 Processor Software Evaluation Guide for Adobe* After Effects* 6.5

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About this Document

This document is a guide measuring performance of the Intel® Pentium® 4 processor on application software. The primary audience for this document includes individuals, publications, OEMs and technical analysts whose goal is to test or evaluate the performance benefits and features of the Pentium 4 processor. If there are questions that are not answered here on software application performance evaluation of the Pentium 4 processor, please contact your Intel representative.

Each software application test measures different aspects of processor and/or system performance. While no single numerical measurement can completely describe the performance of a complex device like a microprocessor or a personal computer, application tests can be useful tools for comparing different components and systems. The following results and procedures give a glimpse of the performance of certain software applications, however your own usage of each application may vary from what is shown here. The only totally accurate way to measure the performance of your system, is to test the actual software applications you use, in the way you use them, on your computer system. Test results published by Intel are measured on specific systems or components using specific hardware and software configurations, and any differences between those configurations (including software) and your configuration may make those results inapplicable to your component or system.

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Chapter 1
Intel® Pentium® 4 Processor Performance on Adobe* After Effects* 6.5

1.0 Software Description

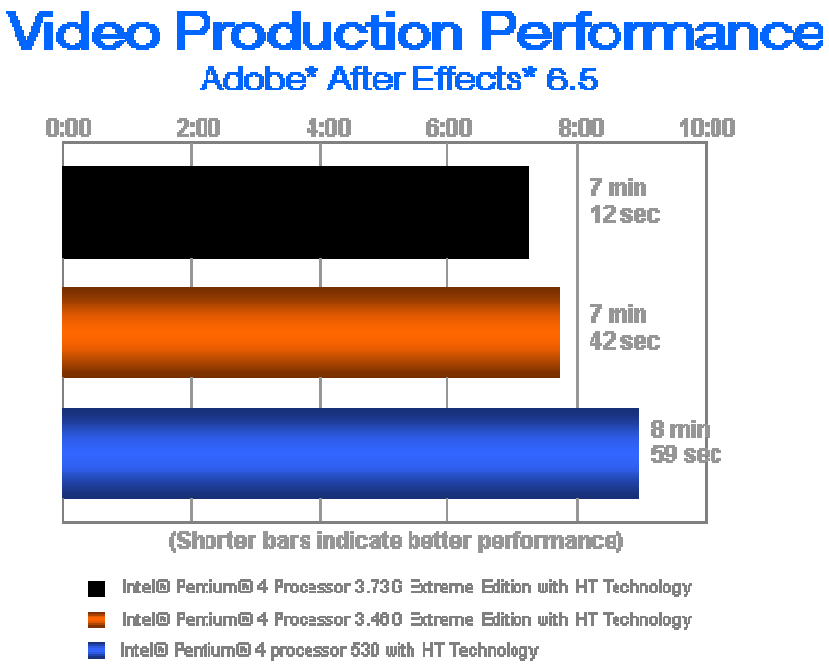
Adobe After Effects 6.5 software delivers a comprehensive set of tools to efficiently produce motion graphics and visual effects for film, video, multimedia, and the Web. The After Effects 6.5 Production Bundle provides core compositing, animation and effects tools, 16-bit color support, vector paint capabilities, network rendering, and additional powerful keying, motion control, visual effects, 3D channel, and audio tools.

1.1 Test Workload Description

The workload applies different filters and effects to a variety of input file types including Photoshop* PSD, Illustrator AI and EPS, TIF, and QuickTime* MOV files. Some of the filters and effects include: blur, bulge, color key, frame blending, glow, motion blurring, fading, 2D and 3D manipulation, shadows, echo, median, radial blur, and invert. After each filter is applied, the composition is rendered to an uncompressed AVI movie file of the same resolution as the input file(s).

1.2 Results

The Adobe After Effects 6.5 test shows excellent performance for the Pentium 4 processor by using real-world production software to measure the processing power available to produce motion graphics and visual effects for video. This workload was created to showcase key features of the application. This application benefits from enhanced SSE3 technology implementation, 2MB level 2 cache, 90nm technology, high memory bandwidth with the 1066 MHz system bus, and balanced platform design. Furthermore, benefits are seen by the end user because the application is threaded thus allowing Hyper-Threading technology to better allocate and utilize the resources of the processor. The Intel Pentium 4 processor 3.73GHz Extreme Edition with HT Technology shows excellent performance.



Note: The above results are in minutes and seconds. For configuration information see Table 1.0 and for detailed procedure see Chapter 3.

1.3 Benefits

In interpreting the data in the chart above, let's look at the following scenario:

If someone wanted to purchase a new computer, they would want to choose a computer that suits their needs now and for the future. They may be asking, "What benefit would I get from Intel's latest Pentium® 4 Processor Extreme Edition with HT Technology and 1066 MHz system bus?" Extrapolating from the data in the chart above, the Pentium 4 processor 3.73GHz Extreme Edition with HT Technology can render tasks **~30 seconds *faster*** than a Pentium 4 processor 3.46GHz Extreme Edition with HT Technology. Therefore, by purchasing a PC using the Pentium 4 processor 3.73GHz Extreme Edition with HT Technology this person will be able to do more rendering in less time compared to the Pentium 4 processor 3.46GHz Extreme Edition with HT Technology.

Chapter 2
System Configuration and Setup

2.0 Current Reference Configuration

This section describes the configuration used for the Pentium® 4 processor desktop performance evaluation as reported in this document. Note that the *configuration is subject to change*, and any changes may be reflected in the later versions of this document. Table 1 shows the hardware and software configuration used for this performance evaluation.

Operating System	Microsoft* Windows* XP Professional Edition (Build 2600, NTFS partition, 32-bit File System) with SP2
Motherboard	Intel® Desktop Board D925XECV2, CV92510A.86A.0316
Memory Size	Corsair* DDR2 533 1GB (2 x 512MB), CM2X512-4300C3 XMS4303c1.1 0438062-2 XMS2-4300 512MB 538MHz 3-3-3-8
Graphic Adapter	ATI Radeon X800 XT Platinum Edition with 256 MB GDDRIII memory
Chipset Inf File	Intel chipset software installation file (INF): 6.0.1.1002
Hard Disk	Seagate ST3160023AS Serial ATA 160GB (7200 RPM, 8MB cache)
Graphics Driver	ATI Catalyst* 4.11 (beta 8.07) Driver Suite: display driver version: 6.14.10.6490
Resolution /Colors	1024 x 768 @ 32-bit color
DirectX Support	Microsoft DirectX 9.0c

Table 1.0 Current Reference Configurations:

Note: *All equipment is publicly available unless it is stated otherwise.*

2.1 Install and Run Procedure Common to All Standard Benchmarks and Tests

This section outlines the run procedure recommended for all benchmarks and tests:

- Always start with a clean, formatted hard disk.
- Extract all driver files from the installation package “F6 INSTALL 2600.exe” to a floppy disk after downloading the file from http://downloadfinder.intel.com/scripts-df/Detail_Desc.asp?agr=N&ProductID=951&DwnldID=6401
- This floppy contains the iaStor.inf, iaStor.sys, iaStor.cat and TxtSetup.oem files in the root directory.
- Begin installation Windows*XP Professional Edition with SP2 from the operating system CD.
- At the beginning of the operating system setup, press F6 to install a third party SCSI or RAID driver.
- When prompted, select 'S' to Specify Additional Device.
- When prompted, insert the floppy disk you created and press enter.
- At this point you should be presented with a selection for "Intel(R) RAID Controller". Highlight this selection and press enter.
- Press enter again to continue. Leave the floppy disk in the system until the next reboot as the software will need to be copied from the floppy disk again when setup is copying files.
- Format the file system to NTFS.
- After installation of the OS is complete restart your system.
- Install the Intel Application Accelerator RAID edition “iata_cd.exe” from http://downloadfinder.intel.com/scripts-df/Detail_Desc.asp?agr=N&ProductID=951&DwnldID=5831
- Install DirectX 9.0c from http://www.microsoft.com/downloads/details.aspx?FamilyID=0a9b6820-bfbb-4799-9908-d418cdeac197&displaylang=en
- Install the Intel Pro1000 LAN driver from http://support.intel.com/support/network/adapter/1000/sb/cs-006120-prd749.htm
- From Display Properties – Settings - change the graphics resolution to **1024x768** and **32-bit** colors.
- From Display Properties – Settings – Advanced – Monitor, change the monitor setting to “Plug and Play monitor” and refresh rate to 75 Hz.
- Turning off Visual Effects: Right click on My Computer on your desktop, click on the Advanced Tab and click on the Settings button in the performance section, Click the Visual Effects Tab, choose Custom and uncheck all the boxes. Click OK. Having visual effects on is known to decrease performance across all platforms.
- Disable System Restore: Right click on My Computer on your desktop, click on the System Restore Tab, check the box called Turn off System Restore. Click ok. The System Restore captures the state of the system at any given time and stores the information on the hard disk. Having System Restore On, increases the run to run variation on most benchmarks.
- Disable Windows Update: Right click on My Computer on your desktop, click on the Automatic Updates Tab, click the option to “Turn off automatic updating, I want to update my computer manually.” Click OK. It is important to turn this option off because the window may come to the foreground during a benchmark run which may cause the test to fail.
- In the Control Panel, double click on Display, click on the Settings tab, click the Screen Saver tab, select (None) in the Screen Saver option. Click on the Power button, click on the Power Schemes tab, and

change the power schemes to “Always On,” change the Turn off monitor option to Never. Click on the Hibernate Tab, and uncheck the Enable hibernation box. Click Ok. It is important that screen savers and hibernate do not occur during a test run because they may cause test to fail.

- Install the required software from its CD according to the directions provided by the software vendor (or let the “Auto run” feature start the installation program automatically). Be sure to copy the files to the hard drive by checking the box that says “Copy support files to hard drive” when prompted.

- After the software installation is complete and the system is ready for evaluation, use the Shut Down command on the Start menu to Shut Down and Restart the system.

Chapter 3

Procedure for Evaluating Intel® Pentium® 4 Processor Performance

The following is a procedure for evaluating Pentium 4 processor performance while producing motion graphics and visual effects for video in Adobe* After Effects* 6.5.

Run this test on a Pentium 4 processor system running *Windows* XP*.

Installing Quicktime*:

1. Download and Install Quicktime from http://www.apple.com/quicktime/download/

Installing After Effects 6.5:

1. Purchase the Standard Bundle of Adobe After Effects 6.5.
2. Install After Effects with the default settings.
3. Copy the supplied AE6_Workload folder from the CD to your C:\ drive.
4. Reboot the computer.
5. When the system reboot finishes, start After Effects from the start menu,
6. Go to the file menu and select open project.
7. Type in the path for the file called test_all_AE6_default.aep in the file name box. Example: C:\AE6_workload\test_all_AE6_default.aep.
8. Click OK.
9. You should see the Render Queue window. Click on Render.
10. Click OK in the next seven dialog boxes.
11. When the After Effects rendering has completed the time it took to do the test will be automatically written out to a text tile.
12. Close After Effects **WITHOUT** saving the project.
13. The rendering time text file is located at C:\ AE6_workload \test_all_AE6_default.eap logs.
14. Open the text file and scroll down to the bottom. You will see Total Time Elapsed and then a time.
15. This total time it took to complete the After Effects* Workload.
16. Lower time means better performance.
17. To run the test again, delete all the files in the C:\AE6_workload\Output directory.
18. Reboot the system and go back to step 5.